

# **EXHIBIT 19**

*Mr. Sauer  
2 copies*

June 10th, 1959

American Natural Gas Company  
666 Penobscot Building  
Detroit 26, Michigan

Dear Sirs:

Pursuant to your request we have made a study of the operations of the Milwaukee Solvay Coke Company (hereinafter referred to as the Coke Company) and of the effect of such operations on the Milwaukee Gas Light Company (hereinafter referred to as the Gas Company), for the purpose of determining (a) if the Coke Company is being operated most effectively and (b) the most desirable arrangements for the future between the Coke Company and the Gas Company.

This study was made with the assistance of Mr. A.C. Sedlachek, Manager of the Everett Massachusetts Works and Mr. F.D. Miller, Superintendent of the Philadelphia Coke Division, both of Eastern Gas and Fuel Associates. Visits were made to the Milwaukee plant and down town office for the purpose of inspecting plant facilities and analyzing plant operating data and costs.

The Coke Company has been in operation for over fifty years and much of the equipment is very old and could not economically be replaced under present conditions. While the merchant coke industry is a declining industry the Coke Company is favorably situated with respect to markets at the present time and can be expected to continue profitable operation by affecting all possible economies. The Coke Company has been generally well managed and with the exception of the commitment to supply a minimum of 60,000 therms per day of coke oven gas for use by the Sewerage Commission and the continuation of the firing of natural gas and solid fuels instead of low cost coke oven gas, operating decisions have been generally sound.

Following are our conclusions regarding the effectiveness of operation of the Coke Company and our recommendations for future operations.

- (1) The commitment to deliver a minimum of 60,000 therms per day of coke oven gas for consumption by the Sewerage Commission was ill-advised. In order to produce this quantity of coke oven gas the plant would have to operate at a charging rate of 2100 tons per day with a coking time of twenty-three hours, which condition is only possible when running to produce largely furnace coke. There has not been a year since entering into the Coke Oven Gas Contract that the market for furnace coke has been sufficient to permit this production. At the present operating rate of about 1000 tons per day coal charge the failure to produce the minimum contract of coke oven gas costs the Coke Company about \$60,000 annually.
- (2) The remaining principal market available to the Coke Company is the market for high quality foundry coke. Production of this product requires coking times of at least thirty hours which limits plant capacity to a maximum of 1600 tons per day of coal charge. The Coke Company anticipates that markets will require increasing the present operating rate from 1000 to 1350 tons per day. The surplus coke oven gas available at these three operating rates if the gas is not fired in the boiler or if it is fired with and without electric power generation is as follows:

	Average Daily Therms of Coke Oven Gas for Daily Operating Rates of:		
	<u>1000 Tons</u>	<u>1350 Tons</u>	<u>1600 Tons</u>
Surplus if Not Fired	23,600	32,400	42,700
Surplus if Fired with Electric Generation	300	5,700	14,200
Surplus if Fired With Power Purchased	6,150	12,200	21,300

The production of coke oven gas measured in therms per day per ton of coal carbonized is comparable to that obtained by other plants in the industry so that the failure to make the contemplated volume of surplus coke oven gas is the result of lower coal throughput and not of lower plant efficiency. The report gives a tabulation of the surplus coke oven gas that can be expected by months for the above operating rates and for various conditions of boiler firing and electric power generation.

- (3) Actual costs of maintaining the producer and petroleum plants in standby condition are estimated at \$32,500 so that the Coke Company profits from the \$100,000 standby fee under the Coke Oven Gas Contract.

- (1)(4) Operating practices other than fuels used for firing the boilers are generally good.
- (a) The present method of operating all batteries at longer coking times is preferable to banking one of the batteries and pushing the others at shorter coking times.
  - (b) Coke yield is good approaching 80% of coal charged, and the yield of the larger sized foundry and furnace coke is good, in the range of 72%, further indicating the quality of operation.
  - (c) The practice of using two shifts with some overtime at the present low throughput results in a monthly dollar saving over the use of three shift operation.
  - (d) In addition to some \$5,500 annually of standby or idle time in the producer and petroleum plants it is indicated that some labor saving could be effected by consolidating certain foreman and assistant foreman classifications. It is estimated that a maximum of fifteen employees might be affected.
  - (e) The agreements with union labor are as good or better than those of other plants in the industry.
  - (f) The supervisory personnel at the plant are capable and experienced men doing a creditable job.

(g) By-product coal chemical yields are somewhat below industry average and the economics of recovery is only slightly profitable to marginal. The principal by-product prices are dropping and as the market for these by-products changes further and as major maintenance expenditures or capital additions are required, the economic desirability of continuing by-product recovery should be reviewed.

(5) The Coke Company should stop firing all solid fuels and natural gas and fire its own coke oven gas in the boilers. Rather than selling coke oven gas at the present prices paid by the Sewerage Commission or even at the heat equivalent price of natural gas delivered by Michigan Wisconsin the Coke Company should have been burning its own coke oven gas. Natural gas at the gas company's Special Industrial rate schedule is more costly than coke oven gas. Because of the high costs of handling and maintenance of equipment the cost of solid fuels is much more expensive than coke oven gas. It is estimated that the firing of coke oven gas can save \$183,000 annually over the present method of burning natural gas and solid fuels. Boiler conversion to permit firing with 100% coke oven gas with provisions for natural gas and solid fuel standby is estimated at \$60,000 which will pay out of savings after income taxes in less than one year.

(3) (6) The saving by purchasing electric power rather than generating it is not sufficient to give an attractive pay out of the required investment in rectifier equipment to permit purchasing electric power. Instead of going to purchased power at this time it is believed that the motor generator set should be operated at its maximum continuous load capabilities (instead of for peak load) so as to produce a maximum amount of power and minimize the amount generated. With this method of operation a saving in boiler house costs will be realized without any added capital investment.

(4) (7) From observation of plant condition it is indicated that if operation is to be continued for more than a few years an additional expenditure of about 60¢ per ton of coal carbonized or \$250,000 annually will be required for maintenance in excess of the amount planned to be spent.

The Gas Company has entered into a new contract with the Sewerage Commission as of May 1st, 1959 (subject to approval of the Wisconsin Public Service Commission) which, upon approval, will terminate the old contract. This new contract will place the Sewerage Commission on a large volume rate schedule pricing heat units irrespective of the type of gas

supplied so that there will no longer be any necessity to charge the Coke Company for the added cost of natural gas used to make up deficiencies in coke oven gas production below 60,000 therms per day.

The Gas Company proposes to ride out the Coke Oven Gas Contract until it terminates September 1, 1960 under which it pays the contract price amounting to about 3.3¢ per therm of coke oven gas plus the annual standby fee of \$100,000. After the Coke Oven Gas Contract expires the Gas Company proposes to buy surplus coke oven gas without a contract in the quantities and at the times that it is available at the heat equivalent of natural gas received from Michigan Wisconsin which is presently 3.75¢ per therm. The Gas Company does not propose to renew the standby arrangement.

Following are our conclusions regarding the most desirable arrangements for the future between the Coke Company and the Gas Company.

- (1) By continuing the Coke Oven Gas Contract until its natural termination in September, 1960, the Coke Company will receive a lower price for its gas but this loss estimated at about \$15,000 represents a gain of the same amount to the Gas Company. The continuation of the standby fee is estimated to benefit the Coke Company some \$67,500 annually over its actual costs.
- (2) If the two part rate proposal of Michigan Wisconsin is not approved and the Gas Company is faced with curtailing the attachment of space heating customers during the forthcoming heating season, it would be desirable to use coke oven gas to permit continued attachment of space heating customers rather than place any further impediments in the way of the nicely-growing space heating business.
- (3) If the Coke Company plant is operated at the expected rate of 1350 tons of coal charge per day producing 32,400 therms per day, a maximum of some 2300 space heating customers could be supplied. Each space heating customer is worth about \$93 annually to the Gas Company. The cost of purchasing natural gas to make coke oven gas available for this purpose would be about \$17 annually so that the net benefit to the American Natural Gas System would be some \$76 a year per space heating customer supplied with coke oven gas.

- (4) Because of the severe penalty provision of the Michigan Wisconsin tariff it is important not to take on any more excess space heating customers than can be supplied each month with coke oven gas. The Coke Company plans to be at the 1350 ton per day operating rate by September and if this plan materializes and if conditions at that time indicate continued coking at this rate during the winter, it would appear reasonable to take on up to about 2000 excess space heating customers. Added gross profit from this source to the American Natural Gas System could amount to \$150,000 during the next year.
- (5) It is indicated that Michigan Wisconsin will be able to keep its Special Industrial customers on the line during the 1959-60 heating season so that natural gas purchases to replace coke oven gas in the boilers may not be interrupted. In case of interruptions the Coke Company can fire solid fuels at increased costs.
- (6) The prospects for additional gas after the 1959-60 season are believed to be sufficiently good so that the Gas Company should not be getting into a position in which it would have to rely upon coke oven gas after the 1959-60 season.
- (7) After the termination of the Coke Oven Gas Contract in September, 1960 the Coke Company should continue to fire the maximum amount of coke oven gas in its boilers to generate its steam requirements and sell surplus gas when and in the volumes available from time to time. The Coke Company might make such a sale to the Gas Company or it might make an arrangement directly with the Sewerage Commission at a better price.
- (r) (8) The present natural gas connection should be maintained to provide make up fuel during periods of deficient coke oven gas production, and to provide natural gas for fuel when coke oven gas is being sold to the Gas Company for space heating purposes.]

The report upon which the above conclusions and recommendations are based is attached.

Very truly yours,

Chas. R. Hetherington & Co. Ltd.

Chas. R. Hetherington